

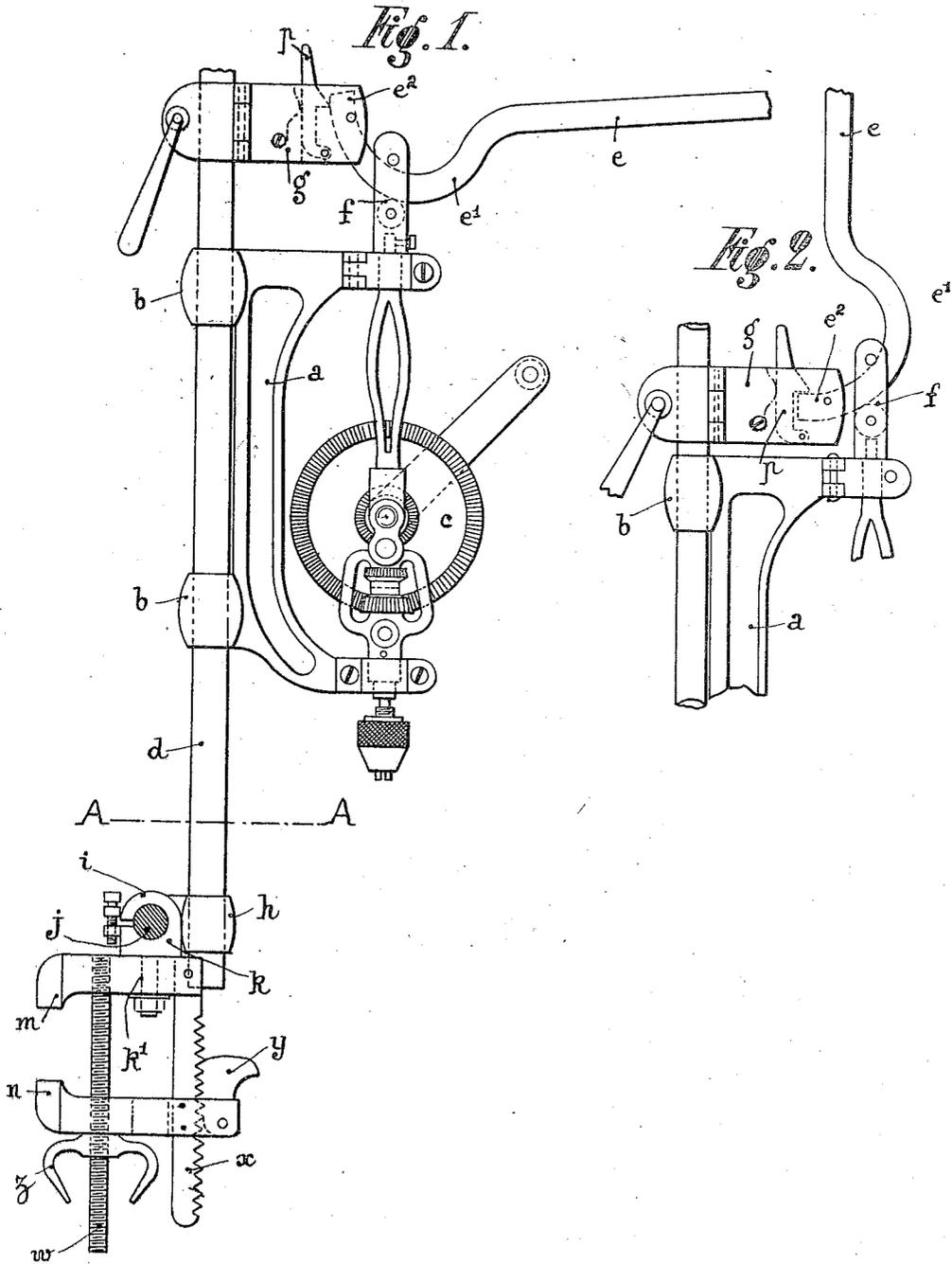
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H. COLOMBELLE

PORTABLE DRILLING MACHINE

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Inventor  
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# UNITED STATES PATENT OFFICE.

HENRI COLOMBELLE, OF LE RAINCY, FRANCE.

PORTABLE DRILLING MACHINE.

Application filed July 2, 1920. Serial No. 393,761.

(GRANTED UNDER THE PROVISIONS OF THE ACT OF MARCH 3, 1921, 41 STAT. L., 1313.)

*To all whom it may concern:*

Be it known that I, HENRI COLOMBELLE, a citizen of France, residing at Le Raincy, Seine, France, have invented certain new and useful Improvements in Portable Drilling Machines (for which applications have been filed in France, March 1, 1915 (Patent No. 485,064), November 28, 1917, and September 12, 1919; in Germany, December 16, 1919; in Switzerland, December 22, 1919; and in Canada, January 27, 1920), of which the following is a specification.

The present invention has for its object a portable drilling machine which is easy to work and is so constructed as to be capable of being fixed at any desired point for the purpose of being used on a particular piece of work. This apparatus is essentially composed of a frame carrying the parts of the drilling machine and which, under the action of an operating lever, is adapted to be moved along a vertical rod at the bottom of which is provided a clamping system with a vertically adjustable clamp jaw whereby the apparatus may be readily fixed at the chosen point in all cases of ordinary practice.

The invention is represented in a constructional form, by way of example, in the accompanying drawing in which:

Figure 1 is a side elevation of the whole apparatus, the operating lever being lowered.

Figure 2 is a similar partial elevation, showing the operating lever brought back to its position of rest.

The apparatus comprises a frame *a* the side lugs *b b* of which are adapted to slide along the rod *d*. This frame *a* carries the drilling machine proper *c* and the whole can be moved vertically by means of the lever *e* the part *e*<sup>1</sup> of which forms a cam which bears upon the roller *f* mounted on the upper part of the apparatus.

The lever *e* is pivoted in a stirrup *g* which is fixed by a suitable means to the rod *d*, at the height required by the work to be done. This means of fixation which must be easy and rapid to operate, will preferably be as follows. The stirrup is provided with a lateral socket which embraces the rod *d* and which is formed by a fixed part *r* to which is pivoted by a hinge, a movable part *s*. These two parts *r* and *s* carry lugs *t* one of which is shown and which can be embraced, once

they have been brought close up to each other, by means of a lever *v* which has a forked end with inclined sides and mounted in such a manner that the narrow portion of said fork produces an energetic clamping action when the lever is lowered. This locking device may also be replaced by any other which answers the required conditions.

The vertical rod *d* is preferably mounted on a horizontal bar or rod *j* by means of which the apparatus can be fixed at two points more or less remote from the point where the drilling takes place. For this purpose, the lower end of the rod *d* is locked, by suitable means in the vertical sleeve *h* by a member having a horizontal sleeve *i* mounted on the horizontal rod *j* on which it can slide but with the possibility of being fixed thereon at any desired point by means of a suitable locking device. In the example shown, the said sleeve *i* is split and provided with lugs which receive clamping screws.

Upon the rod *j* are mounted two members *k*, one of which is shown, which are adapted to slide along the said rod *j* and be fixed thereon at any desired point by means of fixing screws *l*. Each of those members *k* carries a shaft *k*<sup>1</sup> on which rotates the upper jaw *m* of a clamp the corresponding lower jaw *n* of which is connected to the former by a suitable clamping device. It will thus be understood that the horizontal rod or bar *j* can be firmly fixed and fastened by means of the clamps which it carries, and can be placed or set in all directions and arranged at any desired distance according to requirements. The machine can be placed on the rod or bar *j* and fixed at any desired point.

Preferably the movable jaw *n* of each of the clamps can slide along a rack *x* on which it can be set immediately at a determined point by the thickness of the member to which the machine is attached and fixed thereon by the turning down of the dog *y* provided with rack teeth engaging the rack *x*. The clamping will be effected by screwing the nut with external arms *z* upon the screw-threaded rod *w*.

In order that the lever *e*, now raised, may not fall back to its lower position, before the drilling machine is set in action, this lever carries, beyond the point where it is pivoted on the stirrup *g*, a claw *e*<sup>2</sup> which, in the raised position of the lever *e*, (see Fig. 2)

engages under a catch *p* acted on by a spring. To release the lever *e*, it suffices to push back the said catch *p*.

The apparatus thus constructed presents 5 practical advantages in that it can be mounted on the article to be operated on without this latter having to be moved. Once it has been mounted in place, it affords the same guarantees and the same faculties of operation 10 as a fixed drilling machine.

It must be understood that modifications or variations may be made in practice particularly as regards the arrangements of the details of the clamps and the locking devices 15 and devices for fixing the different parts.

Having thus described the nature of the said invention and the best means I know of carrying the same into practical effect, I claim:

20 1. A portable drilling machine, comprising a supporting rod, a frame mounted to slide and swing upon said rod, collars provided upon the frame for supporting a breast drill, a feed lever having a curved end 25 portion, a fulcrum mounted to slide and swing upon the rod and in which the end of the lever is mounted, and a roller mounted in the frame in a line with the axis of the drill with which the curved portion of the 30 lever contacts when the lever is swung to feed the drill.

2. A portable drilling machine, comprising a supporting rod, a frame mounted to slide and swing upon said rod, means provided upon the frame for supporting a 35 breast drill, a feed lever, a fulcrum mounted

to slide and swing upon the rod, and in which one end of the lever is mounted, and means on the frame in a line with the axis of the drill with which the lever contacts 40 when said lever is swung to feed the drill.

3. A portable drilling machine comprising a supporting rod, a frame mounted to slide and swing upon said rod, means provided upon the frame for supporting a 45 breast drill in position substantially parallel to said rod under all conditions of operation, a fulcrum member mounted to slide and swing upon the rod, a feed lever pivoted at one end in said member, and means on the 50 frame arranged in line with the axis of the drill with which said lever contacts when the lever is swung to feed the drill.

4. A portable drilling machine comprising a supporting rod, a frame mounted to slide and swing upon said rod, means provided upon the frame for supporting a breast drill, a feed lever, a fulcrum mounted to slide and swing upon the rod, and in 60 which one end of the lever is mounted, means on the frame in line with the axis of the drill with which the lever contacts when said lever is swung to feed the drill, and a catch for engaging the end of said lever when swung upward to hold the lever and frame 65 in raised position.

In witness whereof, I have hereunto signed my name in the presence of a subscribing witness.

HENRI COLOMBELLE.

Witness:

VINCENT S. EDWARDS.